

REMARKS

Claims 1-32 are currently pending in the subject application and are presently under consideration. Applicant notes with the appreciation the withdrawal of the previous grounds of rejection and the allowability of claim 18.

Favorable reconsideration of the subject patent application is respectfully requested in view of the comments herein.

I. Rejection of Claims 1, 2 and 6-10 Under 35 U.S.C. §103(a)

Claims 1, 2, and 6-10 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Woolard *et al.* (US 6,178,362) in view of Schienbein *et al.* (US 6,738,692). This rejection should be withdrawn for at least the following reasons. Woolard *et al.* and Schienbein *et al.*, individually and in combination, do not disclose or suggest all the limitations of the subject claims.

To reject claims in an application under §103, an examiner must establish a *prima facie* case of obviousness. A *prima facie* case of obviousness is established by a showing of three basic criteria. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. See MPEP §706.02(j).

Applicant's claimed invention, as recited in claim 1, relates to *a load monitoring and management system, including a plurality of sensors associated with one or more loads, and a load control component. The load control component has a waveform analyzer component that receives data from the sensors and determines power data that is utilized by the control component so as to determine the rate of energy distributed to the load, and regulate the rate of energy utilized by the load.* Woolard *et al.* does not disclose or suggest these novel features.

Woolard *et al.* relates to an energy management system for a commercial facility that utilizes large physical plants. Woolard *et al.*'s system is divided in various subsystems, including an energy manager, a facility navigator, a facility manager, and an alarm manager. The Office Action cites several passages against the claimed *plurality of sensors*. However, nothing of the kind is disclosed in the cited passage at cols. 3 and 4. The cited passages at cols. 5 and 6 merely disclose measuring of energy data from *utility meters in the facility*. It is maintained that the reference does not teach or suggest a *plurality of sensors associated with one or more loads*, as recited in claim 1. The cited passage at col. 5, lines 45 through col. 6, line 22 discloses an "energy manager" that receives "utility meter data" and performs a variety of analysis functions, *e.g.*, analyzing energy usage, analyzing energy load aggregating data, power procurement analyzing, *etc.* Also, this passage shows an "alarm" that "generates an alarm signal to indicate deviations from an acceptable signal quality." It is therefore evident that Woolard *et al.* is simply a passive system that is only capable of monitoring, analysis and indicating an alarm. Therefore, Woolard *et al.* fails to disclose a *load control component* that, *inter alia*, **regulates the rate of energy utilized by the load**. In admitting the aforementioned deficiency of the cited document, a combination is proposed with Schienbein *et al.*, which relates to a modular, integrated Power Conversion and Energy Management System with independent power modules integrated together with communication modules and a configurable controller. These modules include standard components such as an inverter, DC converter, a grid connector and a rectifier (col. 6, lines 4-7) and are governed by the configurable controller "to control power quality and/or flow to one or more input and/or output connections," as stated in the cited passage bridging cols. 2 and 3. However, there is nothing in the cited passage or elsewhere in Schienbein *et al.* that teaches or suggests the aforementioned deficiencies of Woolard *et al.* Further, there is nothing in Schienbein *et al.* to suggest how such a modular, integrated unit could be adapted into an energy analysis system for a large facility utilizing physical plants, as is the subject of Woolard *et al.* It is respectfully submitted that no such combination of these references could be contemplated unless guided by the subject disclosure employed as a 20/20 hindsight road map to the claimed invention. The above notwithstanding, Schienbein *et al.* clearly fails to overcome the deficiencies of Woolard *et al.*, so even if a

combination of these references could be contemplated, it would still fail to show each and every aspect of the claimed subject matter.

In view of the above, it is clear that the cited documents fail to disclose or suggest every aspect of the claimed subject matter. Accordingly, the rejection of independent claim 1 (and claims that depend there from) should be withdrawn.

III. Rejection of Claims 3 and 4 Under 35 U.S.C. §103(a)

Claims 3 and 4 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Woolard *et al.* in view of Schienbein *et al.*, further in view of Holle *et al.* (US 2004/0150384). Withdrawal of this rejection is requested for at least the following reasons. Claims 3 and 4 depend from dependent claim 2, which in turn depends from independent claim 1; and as stated *supra*, Woolard *et al.* does not disclose or suggest every limitation set forth in the subject independent claim, and Schienbein *et al.* and Holle *et al.* do not cure the aforementioned deficiencies. Accordingly, this rejection should be withdrawn.

IV. Rejection of Claim 5 Under 35 U.S.C. §103(a)

Claim 5 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Woolard *et al.* in view of Schienbein *et al.* and Holle *et al.*, further in view of Ehlers *et al.* (US 2001/0010032). Withdrawal of this rejection is requested for at least the following reasons. Claim 5 depends from dependent claim 4, which ultimately depends from independent claim 1; and as stated *supra*, Woolard *et al.* does not disclose or suggest every limitation set forth in the subject independent claim. Schienbein *et al.*, Holle *et al.* and Ehlers *et al.* do not supply the deficiencies. Withdrawal of this rejection is respectfully requested.

V. Rejection of Claims 11, 16 and 17 Under 35 U.S.C. §103(a)

Claims 11, 16 and 17 stand rejected under 35 U.S.C. §103(a) as being anticipated by Forth *et al.* (US 2002/0120521) in view of Wilson *et al.* (US 2003/00187550). This rejection should be withdrawn for at least the following reasons. Forth *et al.* and Wilson *et al.*, individually and in combination, do not disclose or suggest all the limitations of the

subject claims.

Applicant's claimed subject matter, as recited in independent claim 11, relates to *a machine load metering and management system. A plurality of sensors are **associated with one or more machines**. A programmable logic controller (PLC) collects data captured by the plurality of sensors and **determines and regulates the power to be distributed to one or more machines** based at least in part upon metered data generated by a **waveform analyzer component**.* Forth *et al.* relates to an intelligent electronic device (IED) that can be used for a number of different purposes, including a Programmable Logic Controllers (PLC) and an electric power (watt/hour) meter. (See paragraph [0023].) The Office Action again cites paragraph [0026] of Forth *et al.* against the claimed plurality of sensors. However, it should be noted that this paragraph simply discloses a highly generalized description of the operation and use of a meter or electric watt hour meter or electric energy meter. There is simply no disclosure in Forth *et al.* of an electric meter having any specifics that could be construed as a *plurality of sensors associated with one or more machines* as recited in claim 11. Paragraphs [0023], [0025], [0026], and [0029] are further cited against the claimed PLC, however the first three paragraphs are also very general descriptions of the functions of a PLC and an electric meter. Paragraph [0029] simply discloses a manner in which an IED can be used as a power measuring device, placed on a line near a load for measuring or monitoring power system parameters. Therefore, Forth *et al.* simply does not show the novel claimed aspects for which this reference is cited. It is admitted that Forth *et al.* fails to disclose the claimed **waveform analyzer component** that *generates metered data* that is used by a PLC to **determine and regulate the power to be distributed to one or more machines**. For this reason, Wilson *et al.* is brought in, citing paragraphs [0031] and [0032]. However, there is simply no disclosure in this passage or elsewhere in Wilson *et al.* of the above features alleged to have been disclosed in this document, as recited in claim 11. Further, there is nothing in Wilson *et al.* to suggest how a controller for an electrical grid could be adapted for use with an intelligent electronic device for a PLC, as is the subject of Forth *et al.* It is respectfully submitted that no such combination of these references could be contemplated unless guided by the teachings of the subject disclosure. But the above notwithstanding, Wilson *et al.* clearly fails to overcome the

deficiencies of the Forth *et al.*, so even if a combination of these references could be contemplated, it would still fail to show each and every aspect of the claimed invention.

In view of the above, it is clear that the cited documents, alone or in combination, fail to disclose or suggest every aspect of the claimed subject matter. Accordingly, the rejection of independent claim 11 (and claims that depend there from) should be withdrawn.

VI. Rejection of Claims 12-14 and 19 Under 35 U.S.C. §103(a)

Claims 12-14 and 19 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Forth *et al.* and Wilson *et al.*, further in view of Schienbein *et al.* Withdrawal of this rejection is requested for at least the following reasons. Claims 12-14 and 19 depend from independent claim 11; and as stated *supra*, the combination of Forth *et al.* and Wilson *et al.* does not disclose or suggest every limitation set forth in the subject independent claim. The Schienbein *et al.* document does not supply the aforementioned deficiencies. Thus, this rejection should be withdrawn.

VII. Rejection of Claim 15 Under 35 U.S.C. §103(a)

Claim 15 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Forth *et al.*, Wilson *et al.*, and Schienbein *et al.*, further in view of Ehlers *et al.* Withdrawal of this rejection is requested for at least the following reasons. Claim 15 depends from dependent claim 14, which ultimately depends from independent claim 11. As stated *supra*, the combination of Forth *et al.*, Wilson *et al.* and Schienbein *et al.* does not disclose or suggest every limitation set forth in the subject independent claim. The Ehlers *et al.* document does not cure the aforementioned deficiencies. Withdrawal of this rejection is therefore respectfully requested.

VIII. Rejection of Claims 20, 22, and 24-26 Under 35 U.S.C. §103(a)

Claims 20, 22, and 24-26 stand rejected under 35 U.S.C. §103(a) as being anticipated by Ehlers *et al.* in view of Schienbein *et al.* This rejection should be withdrawn for at least the following reasons. Ehlers *et al.* and Schienbein *et al.*, individually and in combination, do not disclose or suggest all the limitations of the

subject claims.

Independent claim 20 recites a method for metering a load. Data is received from *one or more sensors associated with one or more loads*. The data is transferred from one or more sensors *to a backplane device*. The data is then *time-stamped from individual sensors as it arrives*, and is stored in memory. The *time stamped data and energy algorithms* are utilized to meter a load. Ehlers *et al.* and Schienbein *et al.*, alone or in combination, do not disclose or suggest these novel features.

Ehlers *et al.* relates to an energy management and building automation system that can be implemented over a network such as a LAN having a number of monitor modules for measuring the power consumption of various components in a residential or commercial building. Ehlers *et al.* discloses “a plurality of load sensing and/or load control modules 24” that “may be of differing types; for example, some may be simple on/off switches, while others may include current or power sensors.” (See, *e.g.* paragraph [0058].) The Office Action states that “Ehlers *et al.* teach storing the data with a time-stamp” and that time-stamped data and energy algorithms are used to meter a load as claimed, citing paragraphs [0072] through [0074]. However, these paragraphs merely show a number of tables (*e.g.* device history table, event table) in which various information is recorded, which can optionally include measured or calculated date and time. This is not the same as *time-stamping the data from individual sensors as it arrives*, as claimed. Further, it is clear that the mere tabulation of data is not equivalent to executing *energy algorithms*, as recited in claim 20. The Office Action admits that Ehlers *et al.* fails to disclose *transferring data to a backplane device*, as claimed. For this, the Office Action proposes a combination with Schienbein *et al.*, citing col. 4, lines 39-51. However, this passage merely makes a general disclosure of the structure and operation of a generic backplane that can be used in a modular, integrated power conversion and energy management system. There is nothing in this reference to suggest how such a modular, integrated unit could be adapted into an energy analysis system for an energy management and building automation system as disclosed by Ehlers *et al.* It is respectfully submitted that no such combination of these references could be contemplated unless guided by the subject disclosure. Schienbein *et al.* clearly fails to overcome the deficiencies of the Ehlers *et al.*, so even if a combination of these

references could be contemplated, it would still fail to show each and every aspect of the claimed subject matter.

In view of at least the foregoing arguments, it is readily apparent that the cited documents, taken alone or in combination, do not disclose or suggest every aspect of the claimed invention. Accordingly, the rejection of independent claim 20 (and associated claims that depend there from) should be withdrawn.

IX. Rejection of Claim 21 Under 35 U.S.C. §103(a)

Claim 21 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Ehlers *et al.* in view of Schienbein *et al.* as applied to claim 20 above, and further in view of Hart (US 5,995,911). Withdrawal of this rejection is requested for at least the following reasons. Claim 21 depends from independent claim 20; and as stated *supra*, the combination of Ehlers *et al.* and Schienbein *et al.* does not disclose or suggest every limitation set forth in the subject independent claim. Hart does not cure the aforementioned deficiencies, and so this rejection should be withdrawn.

X. Rejection of Claim 23 Under 35 U.S.C. §103(a)

Claim 23 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Ehlers *et al.* in view of Schienbein *et al.* as applied to claim 20 above, and further in view of Hubbard *et al.* (U.S. Patent No. 6,094,622). Withdrawal of this rejection is requested for at least the following reasons. Claim 23 depends from independent claim 20. As stated *supra*, the combination of Ehlers *et al.* and Schienbein *et al.* does not disclose or suggest every limitation set forth in the subject independent claim. The aforementioned deficiencies are not overcome by Hubbard *et al.*, and therefore this rejection should be withdrawn.

XI. Rejection of Claims 27, 28, and 30-32 Under 35 U.S.C. §103(a)

Claims 27, 28, and 30-32 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Woolard *et al.* in view of Schienbein *et al.* and Holle *et al.* This rejection should be withdrawn for at least the following reasons. Woolard *et al.* and Schienbein *et al.* and Holle *et al.*, individually and in combination, do not disclose or

suggest all the limitations of the subject claims.

Independent claim 27 recites *a method for monitoring and managing loads. Load data is retrieved from one or more sensing devices. Energy data is derived using a **microprocessor located on a printed circuit board inserted in a slot on a backplane** and the load data received from the sensing devices. A **load control strategy** is determined based at least in part on the derived energy data, and **the loads are controlled according to the control strategy**.* Woolard *et al.*, Schienbein *et al.* and Holle *et al.*, alone or in combination, do not disclose or suggest these novel features.

As with the above-noted rejection, the Office Action again cites the same passages of Woolard *et al.* against independent claim 27 in a manner similar to independent claims 1 and 20, and the arguments made above are reiterated herewith. The Office Action once again relies on the passage from col. 5, line 45 through col. 6, line 22. However, this passage simply discloses an *energy manager* that receives *utility meter data* and performs a variety of analysis functions, *e.g., analyzing energy usage, analyzing energy load aggregating data, power procurement analyzing, etc.* The Woolard *et al.* system is simply a passive system that is only capable of monitoring, analysis and indicating an alarm. Woolard *et al.* fails to disclose **determining a load control strategy** and **controlling loads according to the control strategy**, as is recited in claim 27. It is also noted that Woolard *et al.* fails to explicitly disclose a microprocessor, as indicated in the instant Office Action. In any case, the Office Action admits that Woolard *et al.* fails to disclose a **microprocessor located on a printed circuit board inserted in a slot on a backplane** as claimed. The same sections of Schienbein *et al.* are cited that simply disclose a generic description of a backplane system to connect components. No attempt is made to show the other components from Schienbein *et al.* Holle *et al.* is cited for disclosing such components, citing paragraphs [0069] and [0070]. However, these paragraphs simply disclose a “laundry list” of electronic components in a *measurement module*. But there is no disclosure in these references, alone or in combination, to resolve the aforementioned deficiencies of Woolard *et al.* It is respectfully maintained that this is a piecemeal rejection and that one skilled in the art would not have arrived at such a combination unless guided by a hindsight reading of the subject disclosure. In response to this argument as presented in the previous reply, the Office Action proffers an

elaborate combination of these references, picking and choosing various elements from each, and motivated so as to “gain the benefits of modular components.” However, it is respectfully submitted that there is nothing in these references that would suggest such a combination, and one would not be guided to such a combination from these references except to gain the benefits set forth in the subject disclosure. The above notwithstanding, Schienbein *et al.* and Holle *et al.* plainly fail to overcome the deficiencies of the Woolard *et al.*, so even if a combination of these references could be contemplated, it would still fail to show each and every aspect of the claimed subject matter. In view of at least the foregoing arguments, it is readily apparent that the cited documents, taken alone or in combination, do not disclose or suggest every aspect of the claimed invention. Accordingly, the rejection of independent claim 27 (and associated claims that depend there from) should be withdrawn.

XII. Rejection of Claim 29 Under 35 U.S.C. §103(a)

Claim 29 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Woolard *et al.* in view of Schienbein *et al.* and Holle *et al.* as applied to claim 27 above, and further in view of Hart. Withdrawal of this rejection is requested for at least the following reasons. Claim 29 depends from independent claim 27; and as stated *supra*, the combination of Woolard *et al.* and Schienbein *et al.* and Holle *et al.* does not disclose or suggest every limitation set forth in the subject independent claim. Hart fails to cure the aforementioned deficiencies, so therefore this rejection should be withdrawn.

CONCLUSION

The present application is believed to be in condition for allowance in view of the above comments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [ALBRP328US].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number below.

Respectfully submitted,

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